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FILED ELECTRONICALLY

Marlene H. Dortch, Secretary
Federal Communications Commission
Office of the Secretary
445 12th Street, SW
Room TW-A325
Washington, DC 20554

Re: *Ex Parte* Submission for the Record in WT Docket No. 01-90 and ET Docket No. 98-95: Amendment of the Commission's Rules Regarding Dedicated Short Range Communications Services in the 5.850-5.925 GHz Band (5.9 GHz Band)

Dear Secretary Dortch:

The Intelligent Transportation Society of America ("ITS America"), by its counsel, hereby provides this *ex parte* submission for inclusion in the record of the proceedings referenced above regarding proposed licensing and service rules for Dedicated Short Range Communications ("DSRC") in the band from 5.850 to 5.925 GHz ("5.9 GHz Band").[1] This submission will provide further information regarding certain issues currently in the public record as well as to report on recent activities of the DSRC Standards Working Group of the American Society for Testing and Materials ("ASTM") Working Group E17.51 ("ASTM Working Group").

[1] *See In the Matter of Amendment of Parts 2 and 90 of the Commission's Rules Regarding Dedicated Short Range Communications in the 5.850-5.925 GHz Band (5.9 GHz Band), Amendment of Parts 2 and 90 of the Commission's Rules to Allocate the 5.850-5.925 GHz Band to the Mobile Service for Dedicated Short Range Communications of Intelligent Transportation Services,* WT Docket No. 01-90, ET Docket No. 98-95, Noticed of Proposed Rulemaking, 17 FCC Rcd 21236 (2002) ("*DSRC NPRM*").

DSRC Device and Installation Classifications

Currently before the Commission is the proposal that a common transmission standard ("ASTM Standard")[2] be adopted into the Commission's rules for the DSRC service. The proposed DSRC transmission standard specifies the maximum device output power of four (4) classes of DSRC devices:

Table: Device Class Designations

Class	Maximum Device Output Power (dBm)
A	0
B	10
C	20
D	28.8

However, not included in the ASTM Standard are four "installation" classes for the operation of DSRC Roadside Units ("RSUs"), which define the maximum range of transmission (in meters) and the maximum radiated power (measured in EIRP) that RSUs should be permitted to transmit in a particular direction.

Table: Installation Class Designations

Class	Maximum Radiated Power (EIRP)	Maximum Transmission Range
1	10 dBm	Up to 15 meters
2	20 dBm	Up to 100 meters
3	33 dBm	Up to 400 meters
4	44.8 dBm	Up to 1000 meters

As the ASTM Standard includes only the device class designations, ITS America recommends that the Commission include the installation class designations and their corresponding maximum transmitter power levels and maximum transmission ranges in any rules it adopts for DSRC services.[3] DSRC equipment and operations should be consistent with both the device and installation class designations.

[2] E 2213-03 Standard Specification for Telecommunications and Information Exchange Between Roadside and Vehicle Systems – 5 GHz Band Dedicated Short Range Communications (DSRC) Medium Access Control (MAC) and Physical Layer (PHY) Specifications ("ASTM Standard").

[3] *See DSRC NPRM*, 17 FCC Rcd at 23162-64, ¶¶ 41-44.

Site-Specific Licensing

ITS America reiterates its recommendation that DSRC RSUs be licensed on a shared, site-specific basis.[4] In addition to specifying the geographic coordinates and certain technical information for each transmission site, individual licenses should also specify those channels – the Control Channel and Service Channels – that a fixed DSRC station is authorized to use. DSRC licensees typically would not be authorized to operate in all channels in the 5.9 GHz Band. (Conversely, DSRC On-board units would be licensed by rule and authorized to operate across the band.) Frequency coordinators would review a license application and recommend the appropriate Service Channels to be authorized, which would then be identified in the Commission license.

Authorizing only specific Service Channels in each license is recommended because stations utilizing like size communications zones, output power levels and types of antennas are better able to share the same Service Channels. For example, sites operating at medium power and with omni-directional antennas in medium sized communications zones ("medium zone sites") can effectively share Service Channels because the radios are generally able to receive signals from other nearby medium zone sites during the CSMA cycle and back off their scheduled transmission time until the channel is clear. Conversely, medium zone sites do not share channels well with sites operating at lower power, directional antennas in smaller communication zones ("small zone sites") because the medium power radio generally cannot receive signals from nearby small zone sites. Thus, medium zone sites will transmit over and interfere with operations in the small zones. The operations of small zone sites should be aggregated on certain Service Channels. Medium zone operations should likewise be aggregated on different Service Channels. Therefore, based on these considerations, it is requested that each DSRC license specify those Service Channels on which the identified fixed DSRC station is authorized to operate.

Channel 172: High-Availability, Low-Latency Channel

ITS America proposed that Channel 172 (5.855-5.865 GHz) be dedicated to public safety and private licensee vehicle-to-vehicle communications.[5] Upon further consideration, it is recommended that the proposed designation be amended to clarify that Channel 172 is to be used for vehicle safety and other high priority applications to prevent lower priority transmissions from limiting the availability of the channel or increasing the latency of the communications on the channel. It is therefore recommended that Channel 172 be re-designated for "public safety and vehicle-to-vehicle safety communications."

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[4] Ex Parte *Comments of the Intelligent Transportation Society of America: Status Report and Recommendations for Licensing and Service Rules for the DSRC Spectrum in the5850-5925 MHz Band* (filed July 9, 2002 in ET Docket No. 98-95) ("July *Ex Parte* Comments"); *DSRC NPRM*, 17 FCC Rcd at 23162, ¶ 41.

[5] July *Ex Parte* Comments at 62 and Appendix C at 6; *DSRC NPRM*, 17 FCC Rcd at 23159-60, ¶ 36.

ASTM Working Group

ITS America would like to report on two recent actions of the ASTM Working Group. First, in its comments on the *DSRC NPRM* as well as in recent *ex parte* comments,[6] 3M had raised concerns about the proposed antenna height gain correction factor[7] and asked that the Commission not adopt it. ITS America reports that at its meeting in Albuquerque, New Mexico, on November 12, 2003 the ASTM Working Group voted in favor of deleting completely the sentence that appears in proposed Rule 90.385(c)(2) and reads: "The maximum authorized effective isotropic radiated power ('EIRP') is 33 dBm for any Roadside Unit installation where the antenna height is six meters or greater above the roadway bed surface."[8] The additional restriction contained in this sentence will result in an inadvertent drop-off in channels with higher EIRP limits and is unnecessary in light of other protections to guard against potential harmful interference. Consequently, the ASTM Working Group voted to recommend that this language be stricken from the proposed DSRC rules.

Second, 3M had also raised concerns that the proposed emissions mask for Class D DSRC devices may be too restrictive and will hinder the manufacture of affordable public safety equipment.[9] ITS America reports that at its meeting the ASTM Working Group adopted a recommendation that the approval of licenses for Class 4 operation be delayed until evidence is provided that equipment compliant with the Class D emissions mask is commercially realizable.

Please do not hesitate to contact me if there are any questions.

Respectfully submitted,

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Robert B. Kelly

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[6] Comments of 3M (March 17, 2003) ("3M Comments"); *Ex Parte* Comments of 3M (October 31, 2003) ("3M *Ex Parte* Comments").

[7] July *Ex Parte* Comments at 70 and Appendix C at 9; *see DSRC NPRM*, 17 FCC Rcd at 23177-78, ¶ 72.

[8] *Id.* at Appendix C at 9 (proposed Rule 90.385(c)(2)).

[9] 3M Comments; 3M *Ex Parte* Comments; see *DSRC NPRM*, 17 FCC Rcd at 23176-77, ¶ 70 (citing 47 CFR § 90.210).